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(54)【発明の名称】 熱転写記録用受像体

(37)【要約】

【構成】 基材の上に昇華性染料を受容する受像層が設けられた熱転写記録用受像体において、前記受像層がポリウレタン系樹脂の油中水型エマルジョンを用いて形成される多孔質層である。

【効果】 受像層が多孔質構造を有し染料の取り込みが良いため高濃度の記録ができ、受像層に耐熱性の高い微粒子を含むことによって色材層と受像層の融着が起らず、熱による受像層表面の変形が少ない。

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【特許請求の範囲】

【請求項1】 基材の上に昇華性染料を受容する受像層が設けられた熱転写記録用受像体において、前記受像層がポリウレタン系樹脂の油中水型エマルジョンを用いて形成される多孔質層であることを特徴とする熱転写記録用受像体。

【請求項2】 該受像層の上に離型層を設けることを特徴とする請求項1記載の熱転写記録用受像体。

【発明の詳細な説明】

【0001】

【産業上の利用分野】 本発明は熱転写記録用受像体に関し、特に昇華性染料を色材とする転写記録用シートに対して使用される熱転写記録用受像体に関する。

【0002】

【従来の技術】 近年、カラーハードコピーを得るための方法として、熱転写記録法がその簡便さ、装束の安価さ、メンテナンスの容易さ等から急速に広まっているが、特に写真調の高精細カラーハードコピーが得られることから、染料転写方式が注目される様になってきた。この方式は、ベースフィルムの一方の面に昇華性染料（本発明に於て昇華性染料とは昇華もしくは気化性等を有する染料を総称し、以下同様とする）とバインダー樹脂を主成分とする色材層を有する転写記録用シートを、サーマルヘッドなどの加熱手段により加熱し、染料を、染料染着性の樹脂を主成分とする受像層を基体の表面に有する受像体上に転写して記録を行うが、受像体には下記のような性能が要求される。

①転写記録時、転写記録用シートと融着することなく、記録後、転写記録用シートとの剥離が容易なこと。

②受像層での染料の染着性が良好で、高温度、高階調の記録が可能なこと。

③記録物の染料のにじみ、光退色性、暗退色性、耐溶剤性などの保存安定性が良好であること。

【0003】 転写記録用受像体の上記の性能を満足するために、受像層形成のための樹脂、離型剤、増感剤、光安定剤などの各種添加剤が、種々提案されてきた。さらに、最近ではプリントの高速化が求められ、そのためサーマルヘッドに高エネルギーを短時間印加することにより高速化がなされるようになってきた。又、さらに高速化を行う方法として、転写記録シートの基材に導電性フィルムを用いサーマルヘッドの代わりに記録電極を使用し、記録電極より導電性フィルムの中に電流を流してフィルム内でジュール熱を発生させ、熱効率を上げると共に電極への蓄熱を防ぐことにより、プリントのさらなる高速化が検討されている。

【0004】 それらのことにより上記三つの特性の内①の項目が特に問題となってきており、いかに融着を起こさずに、剥離をスムーズにおこなわせるか工夫を要するところである。又、たとえ融着が起こらなくても、高温のために受像層表面が熱変形を起こし、特にイエロ

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一、マゼンタ、シアンと3回プリントされる黒色部に光沢がなくなり、画像の品位が落ちるという問題も生じてきた。

【0005】 それらの問題を解決する方法として、受像層にポリウレタンポリオールとポリイソシアネートの架橋物を使用したり【特開昭61-132387号公報参照】、又、ポリエステル樹脂とイソシアネート、エポキシ、メラミン、フェノール等の硬化剤との架橋物を使うことが提案されている【特開昭62-28088号公報参照】。

【0006】 しかしながら、上記架橋物の受像層を使用した場合、受像層表面が硬くなり、それにより、融着や熱変形が起こりにくくなるものの、逆に硬くなったために染料に対する染着性が悪くなり、画像濃度が低下するという問題が生じる。又、画像濃度を上げるためには、架橋剤の添加量を減らさなくてはならず、そうすると、逆に融着や熱変形が起こりやすくなるという問題が生じ、両方の問題を同時に解決することが不可能であった。又、単に受像層に架橋物を使っただけでは、融着防止効果が不十分であり、特に通電シートと電極を使った通電方式でプリントしたときには、より高エネルギーがかかるため融着が起こりやすかった。

【0007】 また、染着性樹脂を用い多孔質層を受像層とし、染料を受像層内部まで拡散、吸着させ画像濃度を上げる方法として、特開昭61-164893号公報が提案されているが、この方法では多孔化が樹脂溶液の乾燥によるもので、均一かつ緻密な多孔質が再現よく得られにくいばかりでなく、この際添加される可塑剤がブリードしやすいなどの問題があつて十分なものではなかった。

【0008】

【発明が解決しようとする課題】 この発明の目的は、転写記録用シートと融着が起こらずに、簡単に剥離が可能であり、印刷後の受像層表面の熱変形が少なく、なおかつ画像濃度が高い熱転写記録用受像体を提供することにある。本発明者らは上記課題を解決すべく鋭意検討した結果、種々ある樹脂のうちでも特定のポリウレタン系樹脂の油中水型、いわゆるW/O型エマルジョンを用いて多孔質層の受像層を設けることにより、本熱転写記録法に特有で且つ必須特性である熱転写時の転写記録用シートとの融着防止効果や剥離性が飛躍的に向上し、さらに、ポリウレタン系樹脂の有する耐熱変形性及び耐溶剤性等の特性と相まって、高エネルギーで高温、高速に印加する熱転写記録用の受像体として、非常に好適な受像体が得られることを見出し、本発明に到達した。

【0009】

【課題を解決するための手段】 すなわち本発明は、基材の上に昇華性染料を受容する受像層が設けられた熱転写記録用受像体において、前記受像層がポリウレタン系樹脂の油中水型エマルジョンを用いて形成される多孔質層

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【0013】本発明においてポリウレタン系樹脂の分散液は通常のウレタン原料を用いて得ることができるが、受像層に必要とされる転写記録用シートとの密着防止効果、耐熱性、耐熱変形性及び耐溶剤性などが良い点からポリウレタン微粒子を含有するポリウレタン分散液を用いることが好ましい。該分散液は通常有機ジイソシアネート、ポリエーテル型、ポリエステル型、ポリカーボネート型などのポリオール及び短鎖ジオール等の鎖延長剤を用いて前記溶媒のうち活性水素をもたない溶媒中で反応させることによって得られる。該分散液中にはポリウレタン微粒子が均一微細に分散しており、W/O型エマルジョンとした時にすぐれた分散安定性を示す。前記微

【0018】本発明の受像層は前記のポリウレタン系樹脂のW/O型エマルジョン調製時に必要に応じて前記ポリウレタン系以外の樹脂及び各種添加剤を加え塗工液を調製し、例えばリパースロールコート、グラビアコート、ロッドコート、エアドクターコート、ダイコート、バーコート等を用い基材上に塗布し、乾燥する。

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ことにより得られる。基材上に形成させる受像層の厚さは乾燥塗膜として通常3～50 μm 、好ましくは5～30 μm である。

【0019】なお、本発明の受像体とともに用いる感熱転写記録用シートは通常の方法で得られ、昇華型感熱転写の場合使用される昇華性色素としては、アゾ系、アントラキノン系、ニトロ系、スチリル系、ナフトキノロン系、キノフタロン系、アゾメチン系、クマリン系、縮合多環*

*系等の種々の非イオン性の昇華性色素があげられる。

【0020】

【実施例】以下、実施例により本発明を具体的に説明するが、本実施例は本発明をなんら限定するものではない。なお実施例中、「部」は「重量部」、「%」は「重量%」を示す。

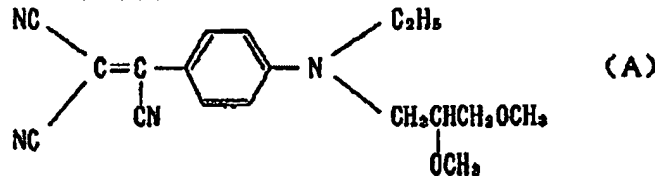
実施例-1

(a) 受像体の作製

ポリエーテル型ポリウレタン分散液 (固形分30%)	100部
ポリウレタン系乳化剤 (固形分30%)	7部
メチルエチルケトン	20部
トルエン	20部
アミノ変性シリコンオイル (信越化学製、KF-393)	0.5部
紫外線安定剤 (チバガイギー社、チヌビン144)	0.1部
紫外線吸収剤 (、チヌビンP)	0.1部
酸化防止剤 (、イルガノックス245)	0.1部
多官能イソシアネート硬化剤 (三蒸化成製、マイテックNY-710A)	3部
水	50部

上記組成の塗工液を厚さ150 μm のポリプロピレン製合成紙にバーコーターで塗布、乾燥し乾燥厚さ約15 μm の受像層を形成させ受像体を作製した。なお、上記のポリウレタン分散液は4,4'-ジフェニルメタンジイソシアネート、ポリテトラメチレンエーテルグリコール及びエチレングリコールを用い、メチルエチルケトン中で反応させて得たものであり、粒径3 μm 以下の微粒子を含むものである。

【0021】(b) カラーシートの作成



【0023】(c) 転写記録試験

上記のカラーシートのインキ塗布面を上記(a)で作成した受像体と重ね8ドット/mmの発熱抵抗体密度を有する薄膜型ラインサーマルヘッドを使用して、下記条件で★40

記録ライン密度
サーマルヘッドの印加電力
サーマルヘッドの印加パルス幅

(d) 記録物の表面観察及び保存安定性試験

上記記録物の印画部表面を顕微鏡観察し、熱変形の跡を観察した結果を後記表1に示した。

【0025】又、上記の記録物をキセノンフェードメーターで80時間露光し露光後の変退色の程度を色差計で測定した結果を後記表1に示した。

実施例-2

※ インキ塗布面の背面が耐熱滑性加工された二軸延伸ポリエチレンテレフタレートフィルム(8 μm 厚)に下記構造(A)で表されるマゼンタ系昇華色素5部、AS樹脂(電気化学工業(株)製、商品名デンカAS-S)10部、トルエン85部、及びシクロヘキサノン10部からなるインキを塗布、乾燥し、乾燥膜厚が約1 μm の色材層を形成し、カラーシートを作成した。

【0022】

【化1】

★記録を行ない、後記表1に示した色濃度の記録物を得た。

【0024】

8ライン/mm
0.4W/ドット
5ミリ秒

実施例-1においてポリエーテル型ポリウレタン分散液の代りに固形分が同じ30%のポリエステル型ポリウレタン分散液を用いた以外は実施例-1と同様の方法により受像体を作製した。なお上記のポリウレタン分散液は4,4'-ジフェニルメタンジイソシアネート、ポリブチレングリコール及びエチレングリコールを用い、メチルエチルケトン中で反応させて得たものであり、粒径3

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μm以下の微粒子を含有するものである。

* 試験を行ない、その結果を表-1に示した。

【0026】実施例-1と同様にカラーシートを作製し*

比較例-1

ポリエステル樹脂（東洋紡績製、パイロン280）	100部
アミノ変性シリコンオイル（信越化学製、KF-898）	5部
トルエン	600部
メチルエチルケトン	600部

上記組成の塗工液を実施例-1と同様にして受像体を作

※【0027】

製した。実施例-1と同様にして試験を行ない、その結

10 【表1】

果を表-1に示した。

※

表-1

	実施例-1	実施例-2	比較例-1
熱変形の程度 (*)	○	○	×
記録物色濃度	2.02	2.13	1.90
記録物の色に じみの程度	無し	無し	少し有り
記録物の露光後 の変退色(ΔE)	4	3	87

*）熱変形の程度が殆ど認められないものを○、熱変形の程度が大きいものを×とした。

【0028】

【発明の効果】熱転写記録用の受像体として本発明品を用いた場合、受像層が多孔質構造を有し染料の取り込みが良いため高濃度の記録ができ、受像層に耐熱性の高い微粒子を含むことによって色材層と受像層の融着が起らず、熱による受像層表面の変形が少ない。従って低エネルギー印加時のざらつきが小さいばかりでなく高エネ

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ルギー印加時においても受像層表面の光沢低下が少なく、なおかつ画像の保存性が良好な記録物を得ることができる。特に高速記録のためにサーマルヘッドで高エネルギー印加を行った場合や、さらに高速化をするために通電方式で印加を行った場合に有効である。

【0029】従って、近年急速に普及しつつあるファクシミリ、プリンタ、複写機等のOA端末機におけるカラー記録やテレビ画像のカラー記録用などに有利に使用できる。

PATENT ABSTRACTS OF JAPAN

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(71)Applicant : MITSUBISHI KASEI CORP

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OTA TAKAYUKI
KURODA KATSUHIKO**(54) IMAGE RECEIVING MATERIAL FOR THERMAL TRANSFER RECORDING****(57)Abstract:**

PURPOSE: To obtain the above image receiving material suitable for high temp. high speed printing using high energy by providing a sublimable dye image receiving layer on a base material using a water in oil type emulsion of a polyurethane resin.

CONSTITUTION: A polyurethane resin is dissolved or dispersed in an org. solvent having proper solubility to water to obtain an oil phase and, after a proper amount of a water in oil type emulsifier, pref. a polyurethane emulsifier is compounded with the oil phase, water is added to and dispersed in the oil phase under stirring to prepare a water in oil type emulsion of a polyurethane resin. This emulsion is applied to a base material such as synthetic paper and dried to obtain an image receiving material for thermal transfer recording having a sublimable dye image receiving layer. It is pref. to use a polyurethane dispersion containing polyurethane fine particles at the time of the preparation of the emulsion from the aspect of the fusion preventing effect and releasability of a transfer recording sheet. As an org. solvent for dissolving and dispersing polyurethane, MEK is used.

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CLAIMS

[Claim(s)]

[Claim 1] The image receiving body for thermal ink transfer recording characterized by said image receiving layer being a porous layer formed using the water-in-oil type emulsion of polyurethane system resin in the image receiving body for thermal ink transfer recording by which the image receiving layer which receives a sublimability color was prepared on the base material.

[Claim 2] The image receiving body for thermal ink transfer recording according to claim 1 characterized by preparing a mold release layer on this image receiving layer.

DETAILED DESCRIPTION

[Detailed Description of the Invention]

[0001]

[Industrial Application] Especially this invention relates to the image receiving body for thermal ink transfer recording used to the sheet for transcription record which uses a sublimability color as a color material about the image receiving body for thermal ink transfer recording.

[0002]

[Description of the Prior Art] Although the thermal-ink-transfer-recording method is quickly circulated from the simplicity, the cheapness of equipment, the ease of the maintenance, etc. as a method for obtaining a collar hard copy in recent years, since the highly minute collar hard copy of a photograph tone is obtained especially, a color transcription method has come to attract attention. This method is heating means, such as a thermal head, about the sheet for transcription record which has the coloring material layer which uses as a principal component a sublimability color (the color which has sublimation or vaporability is named a sublimability color generically, and suppose that it is the same as that of the following in this invention), and binder resin in one field of a base film. Although it heats and being recorded by transferring on

the image receiving body which has the image receiving layer which uses resin of color dyeing property as a principal component for a color on the surface of a base, the following engine performance is required of an image receiving body.

** Exfoliation after record and with the sheet for transcription record is easy, without welding to the sheet for transcription record at the time of transcription record.

** The dyeing property of the color in an image receiving layer is good, and record of high concentration and the Takashina tone is possible.

** Preservation stability, such as a blot of the color of recording material, photofading nature, dark fading nature, and solvent resistance, be good.

[0003] In order to satisfy the above-mentioned engine performance of the image receiving body for transcription record, various additives, such as resin for image receiving layer formation, a release agent, a sensitizer, and light stabilizer, have been proposed variously. Furthermore, these days, improvement in the speed has come to be made by calling for improvement in the speed of a print, therefore carrying out short-time impression of the high energy at a thermal head. moreover As a method of furthermore accelerating, use a conductive film for the base material of a transcription record sheet, and a record electrode is used instead of a thermal head. While sending electric current, generating Joule heat within a film and raising thermal efficiency into a conductive film from a record electrode, the further improvement in the speed of the print is considered by preventing the accumulation to an electrode.

[0004] Especially the article of ** poses a problem among the three above-mentioned characteristics by those things, and ***** of the exfoliation is carried out smoothly, without causing weld how, or it is just going to require a device. Moreover, even if weld does not take place, the image receiving layer surface caused heat modification for the elevated temperature, especially gloss was lost in yellow, magenta, cyanogen, and the black part printed 3 times, and the problem that the grace of an image falls has also been produced.

[0005] As how to solve those problems Use the bridge formation object of polyurethane polyol and the poly isocyanate for an image receiving layer, or [Refer to JP,S61-132387,A,] Moreover, using the bridge formation object of polyester resin and curing agents, such as isocyanate, epoxy, melamine, and phenol, is proposed [refer to JP,S62-25089,A].

[0006] However, although the image receiving layer surface becomes hard and weld and heat modification become difficult to take place by that cause when the image receiving layer of the above-mentioned bridge formation object is used, since it became hard conversely, the dyeing property over a color worsens, and the problem that image density falls arises. Moreover, in order to raise image density, when the addition of the cross linking agent had to be reduced and it did so, it was impossible for the problem that weld and heat modification take place easily conversely to have arisen, and to have solved both problems simultaneously. Moreover,

as for the weld preventive effect, it was inadequate for the image receiving layer just to have used the bridge formation object, and when it printed by the energization method especially using an energization sheet and an electrode, since high energy started more, weld took place easily.

[0007] Moreover, it is how to make a porous layer into an image receiving layer using dyeing property resin, to diffuse a color, make it adsorb to the core of an image receiving layer, and raise image density, Although JP,S61-164893,A was proposed, porosity-ization is based on desiccation of a resin solution, there were problems -- it is easy to carry out bleeding of the plasticizer uniform and precise porosity is not only hard to be acquired with a sufficient rendering, but added in this case -- and this method was not enough.

[0008]

[Problem(s) to be Solved by the Invention] The object of this invention is to offer the image receiving body for thermal ink transfer recording with image density high moreover which can exfoliate easily and has little heat modification of the image receiving layer surface after ****, without the sheet for transcription record and weld taking place. [this invention persons] by preparing the image receiving layer of a porous layer using the water-in-oil type of specific polyurethane system resin, and what is called a W/O type emulsion also among the resin which exists variously, as a result of inquiring wholeheartedly that the above-mentioned technical problem should be solved It is peculiar to this thermal-ink-transfer-recording method, and the weld preventive effect and detachability with the sheet for transcription record at the time of the hot printing which is indispensable characteristics improve by leaps and bounds, and further It found out that characteristics and image receiving bodies conjointly very suitable as an elevated temperature and an image receiving body for thermal ink transfer recording impressed at high speed at high energy, such as heat-resistant deformans which polyurethane system resin has, and solvent resistance, were obtained, and this invention was reached.

[0009]

[Means for Solving the Problem] That is, this invention makes a summary the image receiving body for thermal ink transfer recording characterized by said image receiving layer being a porous layer formed using the water-in-oil type emulsion of polyurethane system resin in the image receiving body for thermal ink transfer recording by which the image receiving layer which receives a sublimability color was prepared on the base material.

[0010] This invention is described in detail hereafter. It is possible to use the base material mainly used for usual thermal ink transfer recording, such as a paper base and a film base material, as a base material used for the image receiving body of this invention, and as a paper base The usual papers obtained from cellulose fiber, the art paper which performed surface treatment etc. to these preferably, A coated paper, a cast-coated paper, paper of fine quality, the synthetic paper obtained from a synthetic resin, etc. are raised, and plastic films,

such as polyethylene terephthalate, polyolefine, and vinyl chloride system resin, these layered products, the layered product of these and said papers, etc. are raised as a film base material. [0011] In the image receiving body of this invention, an image receiving layer has the porous structure formed using the W/O type emulsion (emulsion which waterdrop distributed to the oil phase) of polyurethane system resin. This emulsion makes an oil phase the liquid which polyurethane system resin dissolved or distributed in the organic solvent which has moderate solubility to water, and is obtained a W/O type emulsifier and by adding water and making it distribute under churning using a proper quantity of polyurethane system emulsifiers preferably. And if this emulsion is applied on a base material and it is made to dry, most organic solvents can evaporate first, resin can solidify, and the uniform and precise porous layer which has the pore which was open for free passage when water and a residual solvent evaporated continuously can be formed.

[0012] As said organic solvent, methyl ethyl ketone, methyl n-propyl ketone, The solvent which has moderate solubility to water, such as methyl isobutyl ketone, diethyl ketone, cyclohexanone, methyl formate, ethyl formate, formic acid propyl, methyl acetate, ethyl acetate, butyl acetate, and a cellosolve acetate, is raised. Moreover, the solvent with small solubility to water, such as toluene and xylene, or alcohols, It can be used for the solubility to water by the solvent with large solubility to water, such as cellosolves, acetone, tetrahydrofuran, dioxane, and dimethylformamide, adjusting with combination with other solvents. It is desirable for what has a high boiling point to lessen the amount used if possible with these solvents.

[0013] Although the dispersion liquid of polyurethane system resin can be obtained using the usual urethane stock in this invention It is desirable to use the polyurethane dispersion liquid with which a weld preventive effect with the sheet for transcription record needed for an image receiving layer, detachability, heat-resistant deformans, solvent resistance, etc. contain polyurethane particles from a good point. These dispersion liquid are obtained by making it react in the solvent which does not usually have active hydrogen among said solvents using chain elongation agents, such as polyols, such as organic diisocyanate, a polyether type, a polyester type, and a polycarbonate type, and short chain diol. In these dispersion liquid, polyurethane particles are distributing uniformly minutely, and the dispersion stability which was excellent when it was considered as a W/O type emulsion is shown. Said particle makes a subject the hard segment to which organic diisocyanate and a chain elongation agent reacted, and a grain size is usually 5 micrometers. It is the following. Moreover, you may mix polyurethane resin further to these dispersion liquid.

[0014] In a polymer chain, a W/O type polyurethane system emulsifier has a hydrophilic group like a polyoxyethylene group at a moderate rate, and is compounded in the same solvent as the above. The W/O type emulsion of the polyurethane system resin used in this invention is

what is used by diluting further with a solvent the mixed liquor which added the polyurethane system emulsifier to the dispersion liquid of the aforementioned polyurethane system resin if needed, and distributing water to this. This mixed liquor may be obtained by a well-known method, and may obtain and use a commercial item.

[0015] Although a polyurethane system resin independent is sufficient as the resin which forms an image receiving layer in this invention Saturated polyester system resin, polyvinyl acetal system resin, vinyl chloride system resin, resin, such as vinyl chloride vinyl acetate copolymerization resin, acrylic resin, silicone system resin, a styrene resin, polyarylate resin, an AS resin, polycarbonate resin, and cellulose type resin, -- one kind -- or you may contain two or more kinds.

[0016] Moreover, in order for the image receiving body of this invention to make good a weld preventive effect and detachability with the sheet for transcription record and to give the engine performance with the very sufficient balance as an image receiving body of thermal ink transfer recording, especially the thing established for a mold release layer on this image receiving layer is recommended. As the formation method of this mold release layer, there are a method of adding the process which forms a mold release layer further on this image receiving layer by spreading etc., and a method of carrying out addition mixing of the release agent into this image receiving layer formation slurry, making it contain in this image receiving layer, and making some release agents form on the surface of an image receiving layer. Moreover, as a release agent used by this invention, particles other than the compound of a silicone system, various kinds of waxes, a fluorine system compound, and said polyurethane system etc. are useful. Also in this, that effect of especially the compound of a silicone system is large, and it is recommended that at least un-hardening or a portion forms the compound of a silicone system [**** / un-] by the method of carrying out addition mixing into image receiving layer formation slurry also especially in it.

[0017] Moreover, it is desirable one kind or to contain an ultraviolet ray absorbent, UV stabilizer, two or more kinds of antioxidants, etc. in order to prevent discoloration by exposure in the layer containing the release agent formed on an image receiving layer or an image receiving layer. Moreover, a polyfunctional isocyanate curing agent can also be used for improvement in a heat-resisting property and solvent resistance. In addition, the fluorescent brightener, the antistatic agent, etc. may be added.

[0018] The image receiving layer of this invention adds resin and various additives other than said polyurethane system if needed at the time of W/O type emulsion preparation of the aforementioned polyurethane system resin, and prepares coating liquid. For example, it applies on a base material using a reverse roll coater, photogravure KOTA, rod KOTA, air Dr. Caux Tarr, die KOTA, bar KOTA, etc., and is obtained by drying. The thickness of the image receiving layer made to form on a base material is usually 3-50 micrometers as a dry paint film.

It is 5-30 micrometers preferably. It is.

[0019] in addition, as a sublimability pigment which the sheet for thermal transcription record used with the image receiving body of this invention is obtained by the usual method, and is used in the case of sublimated type hot printing Various nonionic sublimability pigments, such as an azo system, an anthraquinone system, a nitro system, a styryl system, a naphthoquinone system, a qionophthalone system, an azomethine system, a coumarin system, and a condensed multi-ring system, are raised.

[0020]

[Example] Hereafter, although an example explains this invention concretely, this example does not limit this invention at all. In addition, a "part" shows a "weight part" among an example and "weight %" is shown"%."

(a) 受像体の作製

ポリエーテル型ポリウレタン分散液 (固形分 30%)	100部
ポリウレタン系乳化剤 (固形分 30%)	7部
メチルエチルケトン	20部
トルエン	20部
アミノ変性シリコンオイル (信越化学製、KF-393)	0.5部
紫外線安定剤 (チバガイギー社、チヌビン144)	0.1部
紫外線吸収剤 (" 、チヌビンP)	0.1部
酸化防止剤 (" 、イルガノックス245)	0.1部
多官能イソシアネート硬化剤 (三菱化成製、マイテックNY-710A)	3部
水	50部

Example-1

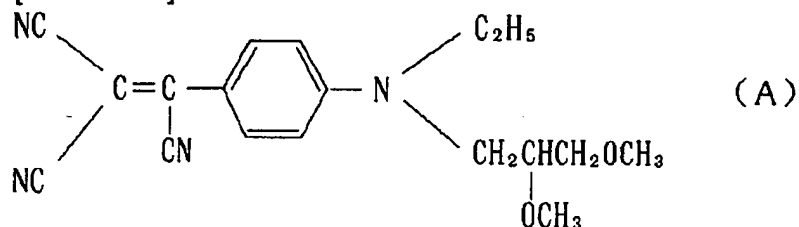
It is 150 micrometers in thickness about the coating liquid of the above-mentioned presentation. It applies and dries by bar KOTA to the synthetic paper made from polypropylene, and is desiccation about 15 micrometers in thickness. The image receiving layer was made to form and the image receiving body was produced. In addition, it obtains by making it react in methyl ethyl ketone using 4 and 4'-diphenylmethane diisocyanate, polytetramethylene ether glycol, and ethylene glycol, and the above-mentioned polyurethane dispersion liquid are the grain size of 3 micrometers. The following particles are included.

[0021] (b) Five copies of magenta system sublimation pigments expressed with the following constitutional formula (A) by the biaxial-stretching polyethylene terephthalate film (6 micrometers thickness) with which heat-resistant slippage processing of the back of the preparation ink spreading side of a collar sheet was carried out, Ink which consists of ten copies of AS resins (the DENKI KAGAKU KOGYO K.K. make, trade name Denker AS-S), 85 copies of toluene, and ten copies of cyclohexanone It applies and dries and desiccation thickness is about 1 micrometer. The coloring material layer was formed and the collar sheet

was created.

[0022]

[Formula 1]



[0023] (c) The thin film type Rhine thermal head which piles up with the image receiving body which created the ink spreading side of the collar sheet of the transcription record check above above (a), and has 8 dots/mm of exoergic resistance density was used, it recorded by the following condition, and the recording material of the depth of shade shown in the after-mentioned table 1 was obtained.

[0024]

Record Rhine density of eight lines/mm 0.4W/dot applied power of a thermal head Impression pulse width of a thermal head Surface observation of 5-millisecond (d) recording material and the ***** surface of the preservation stability test above-mentioned recording material Microscope observation was carried out and the result of having observed the marks of heat modification was shown in the after-mentioned table 1.

[0025] Moreover, the result of having exposed the above-mentioned recording material in xenon fade meter for 80 hours, and having measured the grade of change in color after exposure with the color difference meter was shown in the after-mentioned table 1.

The image receiving body was produced by the same method as example-1 except solid content having used 30% of the same polyester type polyurethane dispersion liquid instead of polyether type polyurethane dispersion liquid in example-2 example-1. In addition, it obtains by making it react in methyl ethyl ketone using 4 and 4'-diphenylmethane diisocyanate, a polubutylene adipate, and ethylene glycol, and the above-mentioned polyurethane dispersion liquid are the grain size of 3 micrometers. The following particles are contained.

[0026] It examined by having produced the collar sheet like example-1, and the result was shown in table-1.

ポリエステル樹脂（東洋紡績製、パイロン290）	100部
アミノ変性シリコンオイル（信越化学製、KF-393）	5部
トルエン	600部
メチルエチルケトン	600部

Comparative example-1

The image receiving body was produced for the coating liquid of the above-mentioned

presentation like example-1. It examined like example-1 and the result was shown in table-1.

[0027]

[Table 1]

表 - 1

	実施例 - 1	実施例 - 2	比較例 - 1
熱変形の程度 (*)	○	○	×
記録物色濃度	2.02	2.13	1.90
記録物の色の にじみの程度	無し	無し	少し有り
記録物の露光後 の変退色 (ΔE)	4	3	3.7

*) -- the grade of O and heat modification made the large thing x for what the grade of heat modification is hardly accepted in.

[0028]

[Effect of the Invention] When this invention article is used as an image receiving body for thermal ink transfer recording, an image receiving layer has porous structure, since incorporation of a color is good, high-concentration record can be performed, weld of a coloring material layer and an image receiving layer does not take place by including heat-resistant high particles in an image receiving layer, but there is little modification of the image receiving layer surface by heat. Therefore, the rough deposit at the time of low energy impression is not only small, but it can obtain the recording material with the keeping quality of an image good moreover which has little gloss lowering on the surface of an image receiving layer at the time of high energy impression. It is effective, when high energy impression is performed by a thermal head especially for high-speed record, or when [in order to accelerate further] it impresses by an energization method.

[0029] Therefore, it can be used in favor of collar record, an object for collar record of a television picture, etc. in OA terminals which are spreading through urgency in recent years, such as a facsimile, a printer, and a copying machine.

[Translation done.]